UNPUBLISHED CONTRIBUTIONS TO THE INTERNATIONAL METEOROLOGICAL CONGRESS HELD AT CHICAGO, AUGUST, 1893.

Although Prof. M. W. Harrington originally contemplated publishing all the important contributions offered to the International Meteorological Congress, which met at Chicago, Ill., August 21–24, 1893, yet that work progressed very slowly, owing to the absence of any special provision for the expense; and the preparation for publication almost entirely ceased in 1897 after printing Parts 1, 2, and 3 as the first eight sections, i. e., pages 1–772 of United States Weather Bureau Bulletin 11.

As the years passed, the preparation of the remaining sections 9 and 10, which would have formed Part 4 of Bulletin 11, progressed so slowly that Prof. W. L. Moore relinquished the plan of completing that bulletin.

It is believed that many of these unpublished papers still retain their value, either as contributions to Dynamic Meteorology or to Climatology, and especially as illustrating the status of meteorological science in 1893. It has therefore been decided to publish them when practicable in future numbers of the MONTHLY WEATHER REVIEW.

The following communication by the late Prof. H. Wild, of the Central Physical Observatory, St. Petersburg, is now presented because of its historical interest in connection with the daily Map of the Northern Hemisphere noticed in the REVIEW for January, 1914.—[C. A.]

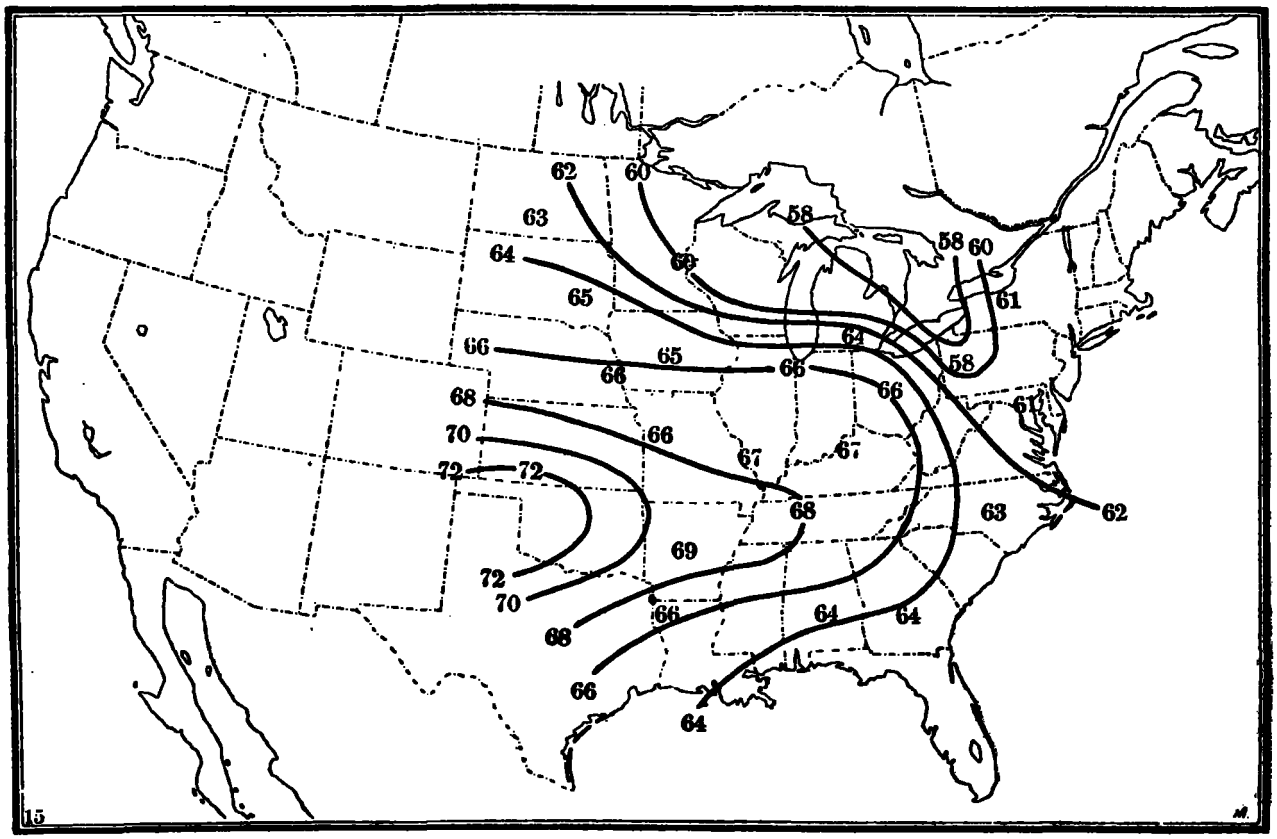

FIG. 15.—Percentage of possible sunshine between planting and harvesting of corn.

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ON THE THEORETICAL AND PRACTICAL IMPORTANCE OF A SERIES OF DAILY WEATHER CHARTS OF THE NORTHERN AND SOUTHERN HEMISPHERES.

[Communicated to the International Meteorological Congress at Chicago, August, 1893.]

By Prof. Dr. H. WILD.

[Dated St. Petersburg, 28 June, 1893.]

In a letter dated February 10, 1893, Prof. Cleveland Abbe has asked me to prepare for presentation to this Meteorological Congress, a general statement of "The theoretical and practical importance of a series of daily weather maps of the Northern and Southern Hemispheres, as complete as they may be made through the cooperation of all nations; the series to be in continuation of the maps of the Northern Hemisphere formerly published by the United States. Also to consider certain details, such as the character of the projection to be used, the reduction to normal gravity, to sea level, the observation hours, etc."

When I declined to prepare such a report, because of lack of time, Prof. Abbe again wrote under date of May 25, urging me to present at least in brief my views on this subject. In consenting to this last request, I must again ask that should this response appear rather elementary, allowance be made for the very limited leisure at my disposal.

Certainly no meteorologist will dispute the theoretical importance of daily synoptic weather maps for the whole globe, so far as this is accessible to observation. It will also be universally conceded that barometric readings from such a map should be reduced to sea level, and that only simultaneous observations can be used thereon. Both the directly observed temperatures and their departures from the respective normals should be plotted. In other regards the elements formerly published in the Bulletin of International Simultaneous Observations, at Washington, would suffice for the present. Since continued observations within the polar circles are but occasional and

at scattered places, the Mercator projection may be recommended for these synoptic charts, with the possible addition of supplementary maps in polar projection for special occasions. In any case there will surely be no one to prefer the wholly unsuitable projection adopted, for example, for the Chart of Annual Rainfall in Berghaus' Physikalisches Atlas, 1887 edition, wherein the greatest distortion occurs in the Temperate Zones, the very region of which we know the most.

From the theoretical viewpoint the one daily simultaneous observation may be made at any hour; practically Greenwich noon would probably be the best time, since then the late afternoon and the early morning hours, which are the most difficult to secure in simultaneous observations, almost without exception will fall to the lot of the Pacific stations where these hours offer no considerable difficulties to observers on shipboard. It is evident that such extensive synoptic charts will further a more comprehensive knowledge of the dynamic phenomena of our atmosphere, and be of great practical advantage in the forecasting of weather and storms; thus it would not be necessary to make special provision for this latter work.

I doubt not that this view will find warm supporters among the members of this congress, but if it is to emerge from the realm of simple desire where so many unanimous resolves of former meteorological congresses still abide, then this Chicago congress must also consider the means for executing such a resolution. Perhaps, indeed, such arrangements have already been perfected very much as when at Vienna Brig. Gen. Albert J. Myer initiated the system of simultaneous observations over the Northern Hemisphere, undertaken and published by the United States Signal Service, whose chief he then was. [See the following extracts from the official protocol of the Vienna congress.—C. A.]

If the United States of North America, in its former generous manner, shall guarantee the means for collecting, discussing, and publishing these proposed new simultaneous observations for the whole globe, it may be safely assumed that no nation will withhold its cooperation in organizing the simultaneous observations in its own territory for this mutually beneficial work. But since it is scarcely to be expected that a single nation will again make so great a sacrifice for the international welfare, the proposed undertaking can only be realized by assigning its execution to an international meteorological bureau founded and maintained at the expense of all nations. The establishment of such an international bureau, but for other purposes, was discussed at the International Meteorological Conference at Munich in 1891, and referred to the International Meteorological Committee for further consideration. The congress at Chicago might therefore request the latter committee to consider the present question as an additional task for such an international meteorological bureau.

[Extracts from Bericht über die Verhandlungen des Internationalen Meteorologen-Congresses zu Wien, 2.–16. September, 1873. Protokolle und Beilagen. Wien. 1873. vi., 114 p. 4°.]

PROTOCOL OF THE SEVENTH SESSION, SEPTEMBER 12, 1873, 10:20 A. M.

Chairman: Mr. SCOTT.

After the minutes of the sixth plenary session were read and approved, the chairman read the written proposition, published as First Appendix to Protocol No. 7, from Delegate General Myer, concerning the institution of at least one daily simultaneous observation, and announced that the discussion of this proposal had been assigned to the next session. (Pp. 23–24.)

1. BEILAGE ZUM PROTOKOLL DER VIITEN SITZUNG. LETTER OF GENERAL ALBERT J. MYER TO THE CONGRESS.

METEOROLOGICAL CONGRESS,
Vienna, September 11, 1873.

To the Congress.

GENTLEMEN: I have the honor to submit the following proposition: [1]

"That it is desirable that with a view to their exchange at least one uniform observation of such character as to be suitable for the preparation of synoptic charts be taken and recorded daily and simultaneously at as many stations as practicable throughout the world."

I am, gentlemen, very respectfully,

(Signed) ALBERT J. MYER,
Brigadier General, Chief Signal Officer, U. S. A.

PROTOCOL OF THE EIGHTH SESSION, SEPTEMBER 13, AT 10.35 A. M.

* * * Next came the discussion of the proposal made by Gen. A. Myer (introduction of simultaneous observations over the whole Northern Hemisphere, appendix 1 to protocol of the seventh session).

First, Mr. Myer stated that he was commissioned by the War Department of the United States of North America to assure the congress of the deep interest taken by the department in all that concerns advance in the system of storm warnings and its desire that the exchange of international telegraphic weather reports shall find the greatest possible distribution. Turning then to his proposal, Mr. Myer stated that it seemed superfluous to argue for the actual establishment of it since the importance of simultaneous observations would undoubtedly be at once conceded by all.

The proposal was supported on several sides. Mr. Hoffmeyer announced that he could support it only in case no very great practical difficulties were present, because it could not be held that the scientific results would justify any very great sacrifice for their sake.

Mr. Buys-Ballot drew attention to his own "Suggestions," wherein he had pointed out simultaneous meteorological observations as a desirable object.

After Mr. Myer had again emphasized the fact that his proposal only called for a declaration by the congress that simultaneous observations over the whole earth were a desirable consummation, the resolution was unanimously adopted. * * * (P. 27.)

5

A CLASSIFICATION OF THE METHODS OF TRANSITION FROM RAIN TO BLUE SKY.

By Prof. WILLIS I. MILHAM.

[Dated Williams College, Williamstown, Mass., Feb. 20, 1914.]

INTRODUCTION.

The occurrence of rain or snow and also of most of the thundershowers of summer is due, as is well known, in nearly every instance to the passage of an extratropical cyclone or area of low barometric pressure near the place in question. Rain or snow now and then result from a V-shaped depression, or from an overgrown cumulus cloud, or from the action of a barrier, or from the condensation of moisture from a purely local source, and summer thundershowers are also sometimes due to purely local conditions, but these cases are too few in comparison with the whole number to merit further consideration. In winter, a passing low is generally attended by a continuous fall of rain or snow for some hours. In summer, warm, sultry weather with thundershowers, particularly in its southern quadrants, is the usual accompaniment of a passing low.

The distribution of the meteorological elements (temperature, pressure, wind, moisture, cloud, precipitation) about an area of low pressure has been much studied by many observers, and the statistical method has been the usual way of studying these formations. Most of the books on meteorology contain in more or less detail the generalizations from these statistics, which may be

[1] Adopted at the VIIIth Session, Sept. 13, 1873 (p. 58.)